

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for repairing an intervertebral disc of a patient using a cultured connective tissue construct, comprising:

- (a) forming at least one opening in the annulus fibrosis of the intervertebral disc;
- (b) removing at least a portion of the nucleus pulposus through the opening in the annulus fibrosis;
- (c) inserting at least a first cultured connective tissue construct into the opening of the annulus fibrosis; and

[[(c)] (d) grafting [[a]] at least a second ~~bioremodelable~~ cultured connective tissue construct to close the opening in the annulus fibrosis, wherein the cultured connective tissue constructs comprise: in the absence of exogenous matrix components or synthetic members said tissue construct comprising

an extracellular matrix layer; ~~layer~~ and

cultured fibroblast cells that synthesize and assemble the layer of extracellular matrix in the absence of exogenous matrix components or synthetic members.

- 2. (Cancelled).
- 3. (Previously Presented) The method of claim 1, wherein the extracellular matrix layer further comprises collagen.
- 4-6. (Cancelled).
- 7. (Previously Presented) The method of claim 1, wherein the cultured connective tissue construct is grafted into the opening in the annulus fibrosis.
- 8. (Previously Presented) The method of claim I, wherein the fibroblast cells are cultured in a chemically defined medium.

9. (Previously Presented) The method of claim 1, wherein the connective tissue construct further comprises decorin and glycosaminoglycan.

10. (Currently Amended) A method for repairing an intervertebral disc of a patient using a cultured connective tissue construct, comprising:

- (a) forming at least one opening in the annulus fibrosis of the intervertebral disc;
- (b) removing at least a portion of the nucleus pulposus through the opening in the annulus fibrosis;
- (c) inserting at least a first cultured connective tissue construct into the opening of the annulus fibrosis; and
- ~~[[c]]~~ (d) grafting [a] at least a second bioremodelable cultured connective tissue construct to tissue surrounding the opening, the second cultured connective tissue construct closes [close] the opening in the annulus fibrosis, wherein the cultured connective tissue constructs comprise: in the absence of exogenous matrix components or synthetic members, said tissue construct comprising

an extracellular matrix layer; ~~layer~~ and

fibroblast cells that are cultured in a chemically defined medium in the absence of exogenous matrix components or synthetic members.

11. (Previously Presented) The method of claim 10, wherein the cultured fibroblast cells synthesize and assemble the layer of extracellular matrix in the absence of exogenous matrix components or synthetic members.

12. (Previously Presented) The method of claim 10, wherein the cultured connective tissue construct further comprises decorin and glycosaminoglycan.

13. (Currently Amended) A method for repairing an intervertebral disc of a patient using a cultured connective tissue construct, comprising:

- (a) preparing a bioremodelable cultured connective tissue construct that comprises an extracellular matrix layer and cultured fibroblast cells by the method comprising:
 - a. seeding and culturing fibroblast cells ~~with the ability~~ to synthesize an extracellular matrix on a cell culture surface in a medium in the absence of exogenous tissue matrix components or synthetic

members;

- b. inducing the cells to upregulate the synthesis and secretion of extracellular matrix; and
- c. culturing the cells on the cell culture surface to produce a layer of extracellular matrix of at least about 30 microns thick comprising extracellular matrix and fibroblast cells;

- (b) forming at least one opening in the annulus fibrosis of the intervertebral disc;
- (c) removing at least a portion of the nucleus pulposus through the opening in the annulus fibrosis;

(d) inserting at least a first cultured connective tissue construct into the opening of the annulus fibrosis; and

~~[[[d]]] (e) grafting the bioremodelable~~ suturing at least a second cultured connective tissue construct to tissue surrounding the opening, the second cultured connective tissue construct closes ~~[[close]] the opening in the annulus fibrosis, wherein the cultured connective tissue constructs comprise: in the absence of exogenous matrix components or synthetic members.~~

an extracellular matrix layer; and

fibroblast cells that are cultured in a chemically defined medium in the absence of exogenous matrix components or synthetic members.

14. (Previously Presented) The method of claim 13, wherein the medium is a chemically defined medium.

15. (Previously Presented) The method of claim 13, wherein the cultured connective tissue construct comprises decorin and glycosaminoglycan.

16. (Previously Presented) The method of claim 13, wherein inducing the cells to upregulate the synthesis and secretion of extracellular matrix comprises changing the medium to matrix production medium.

17. (Previously Presented) The method of claim 13, wherein the cells are seeded directly in matrix production medium that induces the cells to upregulate the synthesis and secretion of extracellular matrix.